

***REMARKS***

In the Office Action, the Examiner has set forth a restriction requirement with respect to seven patentably distinct inventions as stated by the Examiner. The election of Invention I relating to claims 1-28 is reaffirmed, and the non-elected claims have been cancelled.

The Examiner's acknowledgement of the claim of priority is noted, and a certified copy of the priority application will be provided. Further, the specification has been amended to relate back to the U.S. Provisional Application as indicated by the Examiner.

The Examiner has also noted that the Abstract had various informalities, and a new Abstract is submitted herewith accordingly. Further informalities were noted in the Specification, which have been corrected in the amendments herein.

The Examiner further objected to claim 6 as being of improper dependent form, and claim 6 has now been amended to correct this informality. The Examiner also objected to various claims based upon informalities, which again have been corrected in the above amendments. These amendments are related to informalities, and are not based upon issues of patentability.

Further, the Examiner has indicated that several claims are objected to as being dependent on a rejected base claim, but contain allowable subject matter, including claims 7, 8, 13, 14, 17, 18, 23, 26 and 28. In this regard, each of claims 7, 8, 13, 14 and 23 has been amended into independent form, including the limitations of claim 1, to therefore place these claims into condition for allowance. Similarly, claim 28 has been amended into independent form, including the limitations of claim 25, to therefore place these claims into condition for allowance.

The Examiner has also rejected claims 1, 2, 4, 10, 12, 15, 16, 20 and 22 under 35 USC §102(b) as being anticipated by El Hage. The Examiner states that El Hage discloses a corneal contact lens with reference to Fig. 5B, which has a central zone 10, a connecting zone referred to as

the zone with peaks labeled 12 and 14, which the Examiner notes are related to the relief and anchor zones as set forth in the El Hage description. The Examiner further states that the connecting zone has a shape defined as a sigmoidal curve with reference to Fig. 5B. It is also stated that there is a peripheral zone 16. With respect to this rejection, claim 1 has now been amended to recite that the sigmoidal curve of the connecting zone is spaced from the cornea substantially over its extent to create a void space adjacent said central zone, when the lens is positioned on the cornea of a patient. Although it is not clear that the relief zone and anchor zone as taught by El Hage is properly related to the connecting zone of the present invention, it is clear that the anchor zone of El Hage engages the underlying cornea. As stated in column 6, lines 14 et seq., the anchor zone 14 is stated to engage the underlying cornea at a location adjacent to the relief zone 12. As interpreted by the Examiner, the anchor zone 14 is correlated to the connecting zone of the present invention, which as now defined, clearly distinguishes therefrom. It is therefore believed that claim 1 as well as those claims dependent thereon, clearly distinguish from the prior art of El Hage.

Further, dependent claims also clearly distinguish from the present invention from El Hage. For example, with respect to claim 2, the Examiner states that El Hage has a spherical central zone, referring to column 7, lines 14-18 and 28-30, wherein a shape factor is described. In relation to this position, the Examiner's attention is directed to column 6, lines 55 et sec., wherein it is clearly stated that the concave surface is formed with a continuous aspheric curvature from center to periphery, with curvature changes in each of the specified zones. Such a configuration does not relate to use of a spherical central curve, which is independent of the other zones.

Further, such as with regard to claim 12, the El Hage lens as taught simply cannot be correlated to the connecting zone as defined in this claim, by the mathematical expressions set forth. Nothing within El Hage relates to a shape as mathematically described in this claim, and this cannot be said to be an inherent feature thereof. As described by El Hage, the relief zone 12 is simply designed to create a space so as to not apply pressure to an underlying region of the cornea in contrast to the pressure zone 10. The anchor zone 14 on the other hand is designed to contact the cornea and exert pressure thereon for purposes of anchoring the mold on the corneal surface. These teachings of El Hage relate in no way to the mathematical definition of the connecting zone

according to the present invention. With regard to claim 15, the Examiner states that the peripheral zone of El Hage is substantially uncurved, with reference to Fig. 5B. Fig. 5B is firstly noted to clearly be purely diagrammatic, as stated by El Hage in column 4, lines 53-54 stating that the dimensions of Fig. 5B have been greatly exaggerated to explain the design. The design of the second relief zone 16, which the Examiner has correlated to the peripheral zone of the present invention, clearly indicates that it is curved over its entire extent. As stated in column 8, lines 1-4, the mold of El Hage is specifically stated to have a continuous curvature from the annular anchor zone through the second release zone to the raised periphery of the mold. These and other aspects of the present invention as defined in dependent claims clearly distinguish from this prior art.

The Examiner has also rejected claims 1, 2, 4-6, 9, 11, 19 and 21 under 35 USC §102(b) as being anticipated by Woodford. With respect to this rejection, the Examiner states that Woodford discloses a contact lens having a central zone correlated to an optical zone, a connecting zone correlated to an aspheric curve beginning at the optical periphery of the optical zone and continuing to a flatter portion, wherein the so-called connecting zone has a shape defined as a sigmoidal curve. The Examiner states that the working surface 66 of tool 60 has an s-shape, and from this concludes that the lens 70 in Fig. 4B has a connecting zone having a shape defined as a sigmoidal curve. Further, the Examiner states that there is at least one peripheral zone, corresponding to the flatter portion of the aspheric curve near the edge of the lens, corresponding to the bevel labeled 16 in Fig. 1.

In a review of Woodford, this invention is directed to a tool for producing a non-spherical bevel on a contact lens. In the contact lens art, one of ordinary skill in the art recognizes that a bevel associated with a contact lens has a specific meaning. Woodford describes in the Background, Column 1, lines 54-68 thru Column 2, wherein a “bevel” is defined as a posterior surface near the edge, which is flatter than the base curve. It is further stated that the bevel configuration resembles a ski tip in its idea form, whereas the prior art created a non-uniformly shaped beveled surface. Further, such as stated in Column 3, lines 5-7, the invention of Woodford is directed at forming a contact lens, which exhibits a bevel resembling the tip of a ski. As stated in Column 3, lines 33-35, the tool taught by Woodford produces a perfect “ski” periphery. As is clearly evident from this

discussion as well as further discussion of Woodford, it is clear that the contact lens produced by the tool taught by Woodford merely includes a beveled outer periphery which does not have an s-shaped curve as the Examiner suggests, but is a flatter aspheric curve from the curve of the central optical zone to create the desired "ski" bevel. As described in Column 4, lines 15-19, which the examiner suggests teaches the connecting zone, instead clearly recites that there is formed an aspheric curve extending from the periphery of the optical zone to the lens edge. There thus cannot be a connecting zone and peripheral zone as the Examiner suggests. As clearly shown in Fig. 1, the bevel 16 is a smooth curve extending to the edge of the lens 14, corresponding to the clear description in the specification. Thus, Woodford does not produce a lens having a connecting zone as now defined in Claim 1 in relationship to the central and peripheral zones. Various other aspects of the invention clearly distinguish from Woodford as defined in the rejected dependent claims, and it is believed that these claims should be in allowable condition in conjunction with Claim 1. Nothing within Woodford relates to providing a spherical central zone as recited in Claim 2, and the references relied upon in Woodford are misplaced. Nothing within Column 1 relates to the configuration of the lens, but instead this refers to the cornea of a person. Nothing could be inferred regarding the lens relative thereto. Further, Column 4, Lines 15-17 referred to by the Examiner do not provide any information regarding the optical zone of the lens, which makes sense based upon Woodford being directed only at providing a bevel at the outer periphery of the lens. Similarly, with respect to Claim 4, nothing regarding the central zone can be inferred, and the Examiner's attempt to include the aspheric edge bevel is inconsistent with the interpretation of Woodford as relied upon with respect to Claim 1. Nothing within Woodford relates to the limitations of Claims 5 and 6 for similar reasons. With respect to Claim 9, no teachings within Woodford relate to configuring the connecting zone so as to match the slopes of the central zone and at least one peripheral zone, and Fig. 4B cannot be relied upon as providing any teaching. Other claims similarly distinguish, for example in Claim 19, there is no teachings within Woodford regarding the anterior surface and it is clear that the anterior surface does not match the posterior surface as shown in Fig. 1, as only the posterior surface includes the bevel 16. These and the other independent claims are thought to clearly distinguish over this prior art, and are thought to be in allowable condition.

The Examiner also rejected Claims 25 and 27 under 35 USC §102(b), based upon the prior art of Siviglia. The Examiner states that Siviglia discloses a contact lens having a central zone (20), a peripheral zone (22), and a connecting zone referred to as the “elbow region” between the central and peripheral zones. The peripheral zone is stated to be a conical surface. Regarding claim 25, it has now been amended to state that the lens is designed to impart desired forces to said cornea to alter the shape of the cornea in a predetermined manner. The prior art of Siviglia in no way relates to reshaping the cornea, and this claim, as well as those dependent thereon, should now be in allowable condition.

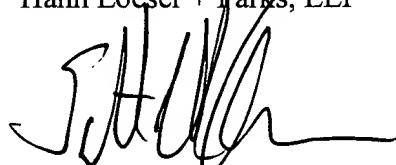
The Examiner has also rejected claim 3 as being obvious in view of El Hage when combined with Harris. The Examiner recognizes that El Hage does not teach in any way the use of a toric surface to form the central zone, and therefore looks to the prior art of Harris in this regard. Harris is stated to teach the use of toric surfaces, rendering the present invention obvious. Although it is not apparent how the teachings of Harris can be used to modify the continuous aspheric curvature of El Hage, as a toric surface is simply not consistent with the formation of the lens as described by El Hage. El Hage teaches forming the entire surface from a “best fit” curve as stated Col. 10, lines 28 et seq., which clearly teaches away from the present invention wherein the central curve is independently designed to have a desired curvature, which as defined in claim 3, can be toric. The combination proposed by the Examiner is simply not suggested, and is contrary to the teachings of El Hage. Nor is there any motivation to combine these patents other than based upon the teachings of the present invention. It is therefore believed that this claim is allowable over the prior art, and favorable action is requested.

The Examiner has also rejected claim 24 as being obvious in view of El Hage when combined with Leiberman et al. The Examiner recognizes that El Hage does not teach in any way the formation of the surfaces at different angles of rotation about the lens central axis. Although the combination of this prior art is not considered to be proper, as this claim is based upon claim 1, which is now distinguishable from the prior art of El Hage, it is also believed to be allowable over the art. It is therefore believed that this claim is allowable over the prior art, and favorable action is requested.

The new claims also define aspects of the present invention that clearly are not taught nor made obvious by the prior art. The prior art does not show the structure of the lens as defined in these new claims, or the claims are directed to subject matter that has already been indicated as being allowable. Favorable action on these claims is requested.

Based upon the foregoing, it is believed that the present invention as now claimed clearly distinguishes from the prior art, and favorable action hereon is respectfully requested.

Respectfully submitted,  
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